IN THE CLAIMS

1. (currently amended) An electrochemical biosensor, comprising:

an insulating substrate;

a layer of electrically conductive wires disposed on said insulating substrate;

an electrode layer comprising a plurality of electrodes including a reference electrode and at least one electrode, and at least two contact ports adapted to connect to a measuring device, said electrode layer being disposed on said layer of electrically conductive wires except for said reference electrode;

a middle insulating layer disposed on said electrode layers without covering said electrodes and said contact ports, said middle insulating layer having a slot therein, above said electrodes;

an active reaction layer having substances of reactant, reaction catalyst, mediator and surfactant spread on the surface of said electrodes and defining an electrode reaction area; and

an upper cover adhered to said middle insulating layer,

said upper cover having a ~~an upwardly extended~~ closed chamber therein ~~therein containing said substances, said chamber being~~ disposed at a rear end of said slot and extending above and in communication with said rear ~~one~~ end of said slot, said slot defining a capillary inflow channel to enable a sample to be rapidly introduced into and fill said electrode reaction area by capillary action upon contact with a front tip of said capillary inflow channel and flow of said sample is stopped at a certain point ~~, said slot being configured to form said sample such that the sample does not extend beyond said chamber~~ along said capillary inflow channel due to said chamber.

2. (previously presented) The electrochemical biosensor according to claim 1, wherein said biosensor is a bi-electrode system and said at least one electrode is a working electrode.

3. (previously presented) The electrochemical biosensor according to claim 1, wherein said biosensor is a tri-electrode system and said at least one electrode –includes a working electrode and an auxiliary electrode.

4. (cancelled)

5. (previously presented) The electrochemical biosensor according to claim 1, wherein said slot is T-shaped.

6. (previously presented) The electrochemical biosensor according to claim 1, wherein said insulating substrate is made of material selected from the group consisting of polycarbonate, polyester, polyether, nylon, polyurethane, polyimide, polyvinylchloride (PVC), glass, glass fibre plate, ceramics and polyethylene terephthalate (PET).

7. (previously presented) The electrochemical biosensor according to claim 1, wherein said layer of electrically conductive wires is made of silver.

8. (previously presented) The electrochemical biosensor according to claim 1, wherein said layer of electrically conductive wires is made of silver chloride.

9. (previously presented) The electrochemical biosensor according to claim 1, wherein said layer of electrically conductive wires is made of gold.

10. (previously presented) The electrochemical biosensor according to claim 1, wherein said electrode layer is made of carbon.

11. (previously presented) The electrochemical biosensor according to claim 1, wherein said electrode layer is made of silver.

12. (previously presented) The electrochemical biosensor according to claim 1, wherein said electrode layer is made of gold.

13. (previously presented) The electrochemical biosensor according to claim 1, wherein said electrode layer is made of platinum.

14. (previously presented) The electrochemical biosensor according to claim 1, wherein said reaction catalyst is a bio catalyst.

15. (cancelled)

16. (previously presented) The electrochemical biosensor according to claim 14, wherein said bio catalyst is an enzyme.

17. (original) The electrochemical biosensor according to claim 1, wherein the thickness of said middle insulating layer is between 20 and 400 □m.

18. (original) The electrochemical biosensor according to claim 1, wherein the thickness of said middle insulating layer is between 50 and 200 □m.

19. (previously presented) The electrochemical biosensor according to claim 4, wherein the length and width of said slot is between 2 and 8 mm and between 0.5 and 5 mm, respectively.

20. (previously presented) The electrochemical biosensor according to claim 5, wherein the length and width of said slot is between 2 and 8 mm and between 0.5 and 5 mm, respectively.

21. (previously presented) The electrochemical biosensor according to claim 1, wherein the volume of said closed chamber is between 0.5 and 4 □l.

22. (previously presented) The electrochemical biosensor according to claim 3, wherein said sample can be detected when it is introduced above said working electrode and said auxiliary electrode.

23. (previously presented) The electrochemical biosensor according to claim 1, wherein said biosensor contains a device activation line which can activate said measuring device automatically.

Claims 24-26 (cancelled)

27. (currently amended) A method of fabricating an electrochemical biosensor, comprising the steps of:

forming a layer of electrically conductive wires on a substrate by screen printing which then is dried between 40°C and 120°C;

forming an electrode layer on top of said layer of electrically conductive wires by screen printing and drying said substrate between 40°C and 120°C;

forming a middle insulating layer with a slot formed therein above said electrode layer, wherein a working electrode, a reference electrode and an auxiliary electrode are confined

within said slot and the opposite ends of said electrodes are exposed to make contact with a measuring device;

applying an active reaction layer on said slot;

adhering an upper cover formed with an opening therein above said middle insulating layer, wherein said opening is positioned at a rear ~~one~~ end of said slot; and

applying a surface layer above said upper cover,

wherein said opening defines a closed chamber within said upper cover above and in communication with said rear ~~one~~ end of said slot, said slot defining a capillary inflow channel such that a sample of substance ~~in said closed chamber~~ can be rapidly introduced into and fill said electrode layer by capillary action upon contact of the substance with a front tip of said capillary inflow channel, and flow of said sample ~~is configured by~~ in said slot is stopped at a certain point in said slot due to said chamber ~~not to go from said chamber beyond said capillary inflow channel~~.

28.(previously presented) The method of claim 27, wherein said middle insulating layer is formed on top of said electrode layer by screen printing.

29. (previously presented) The method of claim 27, wherein said slot is a T-shaped slot and the transverse opening of said T-shaped slot forms two air vents on opposite sides of said biosensor.

30. (previously presented) The method of claim 27, wherein said middle insulating layer is formed on top of said electrode layer by adhesion.

31. (previously presented) The electrochemical biosensor according to claim 1, further comprising a thin plate disposed on top of said upper cover.